

Mountain Thunder  
Patrick H. Stakem  
August 2011

This article presents some details of the steam locomotive *Mountain Thunder* used on the Western Maryland Scenic Railroad (WMSR). Thanks to Frank Fowler, General Manager of the Scenic Railroad and a Chapter Director, for providing information.

Locomotive 734 joined the roster in 1991, but needed extensive overhaul until 1993. Diesels were used in the interim. Previously, the Pacific class steam locomotives from the Allegany Central Railroad had hauled the train.

Unit 734 was a class 18/SC-1, 1 of 18 built by Baldwin Locomotive Works for the Lake Superior & Ishpeming Railroad of Marquette, Michigan. It was Baldwin Works number 43105. It entered service in 1916 as number 18, changed to 34 in 1923. When it came to the Western Maryland Scenic, it was renumbered 734, to fit into the H-7 class of Western Maryland steam engines. There had been a previous WM 734 on their roster.

Locomotive 34 had a long working career with the Lake Superior & Ishpeming on Michigan's Upper Peninsula. Organized in 1893, the railroad's business was transporting iron ore from the iron range west of Marquette to docks on Lake Superior. In 1904, over 1.1 million tons of ore were carried. Some passenger service was provided on the line. The rail operation is still in business, and still hauling iron ore, but with GE diesels. The maximum grade on the line, what they call "the Hill", is 1.63%. The line crosses the Dead River on a 565 foot trestle to reach the docks.

The locomotive was retired in 1951 and stayed on the company's dead line at Marquette until the railroad sold three units to the Marquette & Huron Mountain Tourist Railroad (#32, #34 and #35) in 1963. In November 1967, #35 was sold to the Illinois Railway Museum. Number 33 is with the Ohio Central Railroad, and has operated steam excursions on that line.

Then, in 1991, 734 was bought by the WMSR and underwent a restoration and rebuild, including increasing boiler pressure to 200 psi, as well as a number of other cosmetic changes to make it more resemble a WM H-7 class 2-8-0. It does not have a feedwater heater. The tender was replaced with a larger one from New York Central locomotive #2662, with a capacity of 18,000 gallons of water, and 18 tons of coal. Incidentally, 18,000 gallons of water weighs 72 tons.

Other changes to the locomotive to make it look more like a Western Maryland unit included relocating the cross-compound air pump from the side of the pilot to the running board on the left side and removing the feedwater pump. Over 90% of the parts replaced

on the locomotive were produced in the Western Maryland Scenic's shop in Ridgeley, WV. The shop, with its experienced crew, is a major asset to the railroad.

The locomotive weighs 268,000 lbs, about average for its class, but has a large firebox area (245 sq ft), which includes 29 square feet of arch tubes. The evaporative heating surface is 3643 square feet, with a superheating surface of 844 square feet. It also has a particularly large boiler and large piston valves (14" diameter). The grate is 58.7 square feet and the boiler originally operated at 185 psi, upgraded to 200 psi. The cylinders are 26 inches diameter x 30 inches stroke. The drivers are 57 inches in diameter, with a driver wheelbase of sixteen feet. The locomotive uses Walschaert valve gear. The boiler has a capacity of 3,800 gallons, with a diameter of 90 inches. Weight on drivers is 238,000 pounds, and the achieved tractive effort is calculated at 69,500 pounds. The developed horsepower is calculated at 3,500. Due to the locomotive and tender weight, at least 100 pound (per yard) rail is required.

The locomotive was not originally fitted with an automatic stoker, and was hand-fired. The current stoker was installed by WMSR in 1998. The route climbs 1,291 feet in 16 miles with an average grade of 1.78% and a maximum of 3% as the train nears the Frostburg Station. The coal usage per round trip to Frostburg, with 4 trailing cars is 5 tons. Hauling 14-car trains, fuel consumption is 6 1/2 tons per trip. The firemen are grateful for the stoker. Water is taken at the Western Maryland Station in Cumberland.

The bell on the locomotive is on loan from the Western Maryland Railway Historical Society in Union Bridge, MD, and is from a WM H-9 class, also a 2-8-0. The whistle is also on loan from the Society.

The locomotive is in good shape, thanks to the shops crew at the Western Maryland Scenic facility in Ridgeley, WV. Maintenance is done through the running season, with heavy maintenance scheduled during the winter shutdown. In 2011/2012, boiler tubes and some brass driver bearings will be replaced. The driver tires are scheduled to be replaced in 2013, and a major Federal Railway Administration boiler inspection is due in 2015. With luck and good management, *Mountain Thunder* will make many more trips up the Mountain.